

- NOTES:
1. UNLESS THESE DRAWINGS ARE SPECIFICALLY DESIGNATED AS "CONSTRUCTION ISSUE", THESE DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION OR IMPROVEMENTS DEPICTED HEREIN. CONTRACTORS SHALL NOTIFY THE DESIGN ENGINEER TO OBTAIN CONSTRUCTION DOCUMENTS.
 2. THESE PLANS ARE FOR PERMITTING PURPOSES ONLY. THESE PLANS SHALL NOT BE USED FOR CONSTRUCTION.
 3. WETLAND AND WATERBODY DELINEATION SURVEYS COMPLETED BY AMY S. GREENE ENVIRONMENTAL CONSULTANTS.
 4. PHOTO LOCATIONS PROVIDED BY AMY S. GREENE ENVIRONMENTAL CONSULTANTS.
 5. RIPARIAN ZONES AND WETLAND TRANSITION AREAS PROVIDED BY PAULUS, SOKOLOWSKI AND SARTOR (PS&S).
 6. CIVIL SURVEY CONDUCTED AND DRAWINGS PREPARED BY MATT MC DONALD.

[illegible][illegible]

| APPROVALS | |
|---------------|--------|
| DRAWN BY | DATE |
| RJP | 7/2019 |
| CHECKED BY | DATE |
| KEK | 7/2019 |
| ENG. APPROVAL | DATE |
| MJD | 7/2019 |
| P.M. APPROVAL | DATE |
| MW | 7/2019 |

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| |
| CLIENT APPROVAL |
| DATE |
| 7/2019 |

PREPARED FOR



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| PREPARED BY | |
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MOTT
MACDONALD
111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830
CERTIFICATE NO. 24GA28016600

PENNEAST PIPELINE PROJECT

PENNEAST PIPELINE
FLOOD HAZARD AREA PERMIT PLAN
MP 94.9R2 - MP 95.1R2


| | | |
|----------|--------------|----------|
| SCALE | DRAWING NO. | REVISION |
| 1" = 50' | PE-FHA-M-081 | 0 |

I AM A DULY REGISTERED PROFESSIONAL LAND SURVEYOR
UNDER THE LAWS OF THE STATE OF NEW JERSEY AND I
HEREBY CERTIFY THAT EXISTING CONDITIONS SHOWN
WERE FIELD LOCATED AND PREPARED UNDER MY DIRECT
SUPERVISION.

THOMAS D. STRONG

PROFESSIONAL LAND SURVEYOR

N.J. LIC. NO. 24GS03676100

 08/01/2019

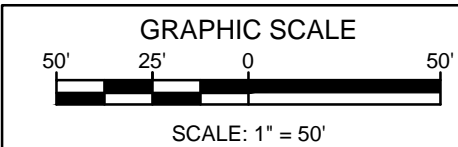
SIGNATURE DATE

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DISTURBANCES SHOWN ARE ACCURATE AND CORRESPOND
WITH THE DETAILED ENGINEERING DRAWINGS.

MICHAEL J. DENICHILO
PROFESSIONAL ENGINEER
N.J. LIC. NO. 24GEO5078700

Michael J. White 08/01/2019

SIGNATURE DATE




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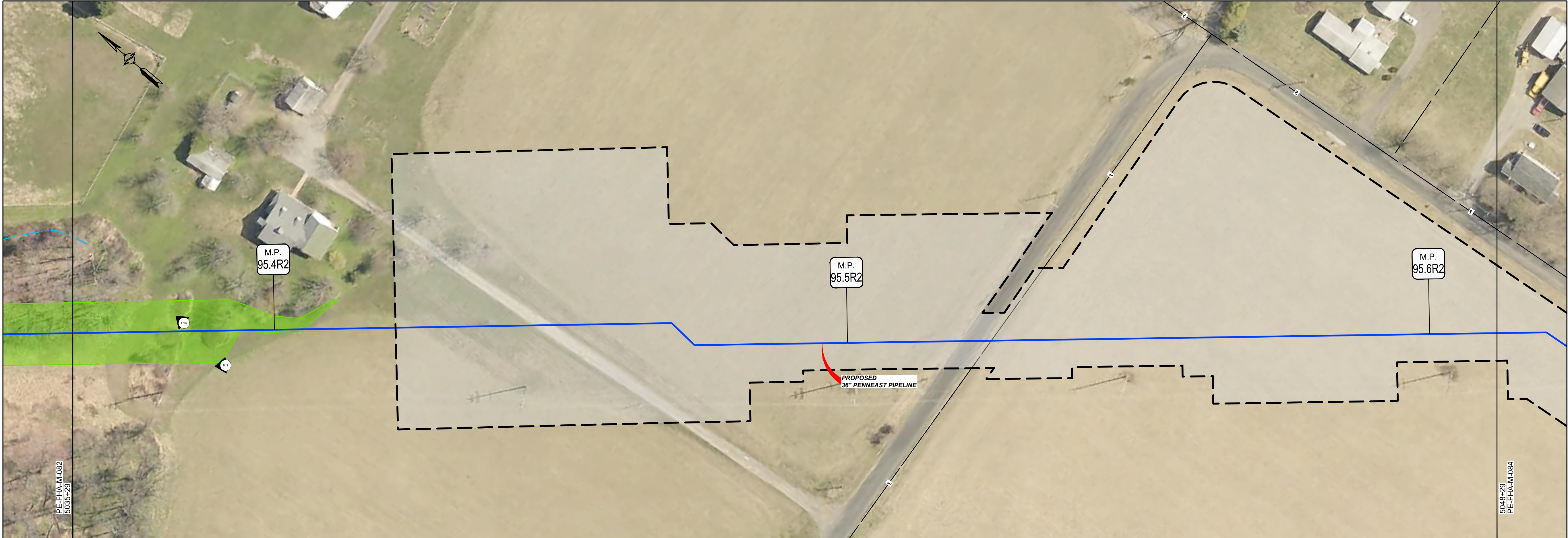
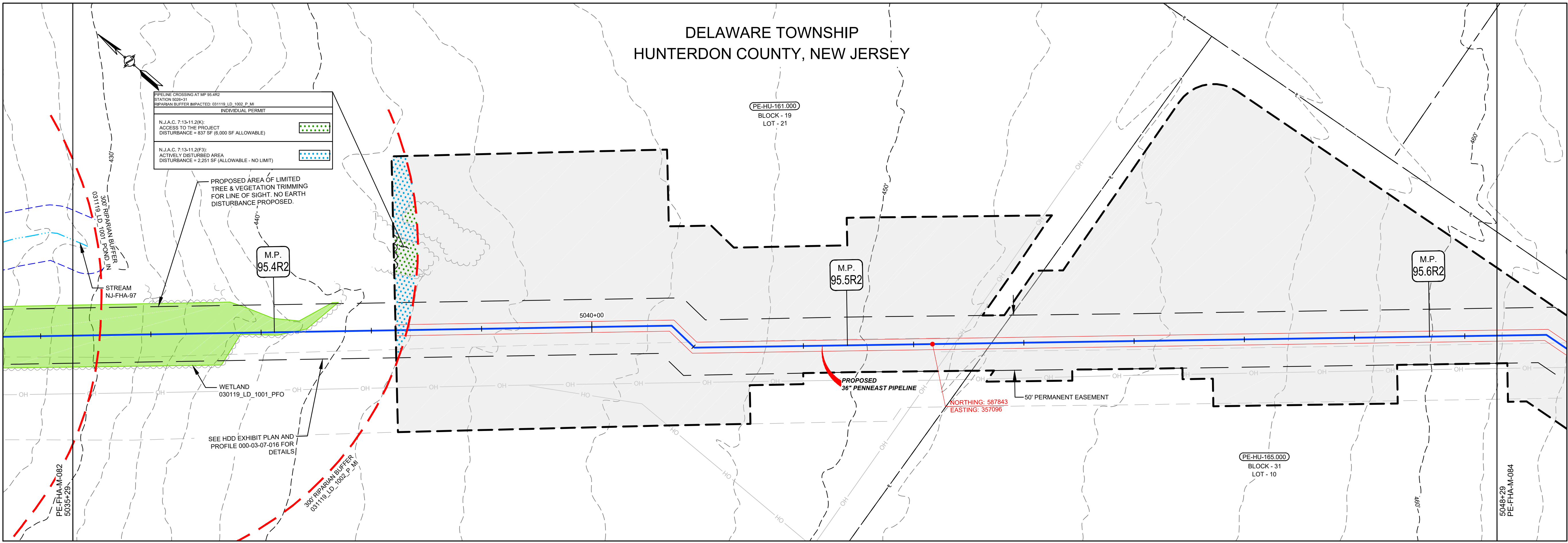
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|---------------|--------|
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| CHECKED BY | DATE |
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| ENG. APPROVAL | DATE |
| MJD | 7/2019 |
| P.M. APPROVAL | DATE |
| MW | 7/2019 |

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| CLIENT APPROVAL |
| |
| DATE |
| 7/2019 |

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| | <p>PREPARED FOR</p>  |
| | <p>PREPARED BY M M</p> <p>MOTT MACDONALD</p> <p>111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830 CERTIFICATE NO. 24GA28016600</p> |

| | | |
|---|--------------|----------|
| PENNEAST PIPELINE PROJECT | | |
| PENNEAST PIPELINE FLOOD HAZARD AREA PERMIT PLAN MP 95.1R2 - MP 95.4R2 | | |
| SCALE | DRAWING NO. | REVISION |
| 1" = 50' | PE-FHA-M-082 | 0 |



- LEGEND
- PROPOSED PIPELINE
 - LIMITS OF DISTURBANCE
 - PROPOSED PERMANENT EASEMENT
 - OPERATIONAL CORRIDOR
 - PROPOSED TREE LINE
 - EXISTING TREE LINE
 - WETLAND (SURVEYED)
 - WETLAND (PUBLIC)
 - WATERBODY (SURVEYED)
 - WATERBODY (PUBLIC)
 - ACTIVELY DISTURBED AREA (RIPARIAN IMPACT)
 - TEMPORARY ACCESS TO PROJECT DISTURBANCE (RIPARIAN IMPACT)
 - NEW UTILITY LINE DISTURBANCE (RIPARIAN IMPACT)
 - RIPARIAN BUFFER
 - 25' BUFFER FROM STREAM TOP OF BANK
 - STREAM CENTERLINE (SURVEYED)
 - STREAM CENTERLINE (PUBLIC)
 - LIMITS OF WETLAND DELINEATION
 - PROPERTY LINE
 - PARCEL ID WITH BLOCK AND LOT NUMBER
 - EXISTING CULVERT
 - CPP CORRUGATED PLASTIC PIPE
 - CMP CORRUGATED METAL PIPE
 - HDPE HIGH DENSITY POLYETHYLENE PIPE
 - PVC POLYVINYL CHLORIDE PIPE
 - RCP REINFORCED CONCRETE PIPE
 - UNK UNKNOWN
 - EXISTING FOREIGN UTILITY EASEMENT
 - 1260' - - - - -
 - EXISTING MAJOR CONTOURS
 - EXISTING MINOR CONTOURS
 - EXISTING PIPELINE
 - OH EXISTING OVERHEAD LINE
 - EXISTING TREE
 - EXISTING FENCE
 - SOW_FLAG_NO
 - STATE OPEN WATER FLAG
 - PHOTO LOCATION (SEE REPORT)

I AM A DULY REGISTERED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF NEW JERSEY AND I HEREBY CERTIFY THAT THE EXISTING CONDITIONS SHOWN WERE FIELD LOCATED AND PREPARED UNDER MY DIRECT SUPERVISION.

THOMAS D. STRONG
PROFESSIONAL LAND SURVEYOR
N.J. LIC. NO. 24GS03676100

Thomas D. Strong 08/01/2019
SIGNATURE DATE

I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF NEW JERSEY AND I HEREBY CERTIFY THAT THE PROPOSED ENVIRONMENTAL DISTURBANCES SHOWN ARE ACCURATE AND CORRESPOND WITH THE DETAILED ENGINEERING DRAWINGS.

MICHAEL J. DENICHILO
PROFESSIONAL ENGINEER
N.J. LIC. NO. 24GE05078700

Michael J. Denichilo 08/01/2019
SIGNATURE DATE

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| REFERENCE DRAWINGS | | REVISIONS | | | | | | |
|--------------------|--------------------------------|-----------|-------------------------|--------|-------|-----|------|--|
| DWG. NO. | TITLE | NO. | REVISIONS | DATE | DRAWN | CK | APPR | |
| 000-03-07-016 | * HDD EXHIBIT PLAN AND PROFILE | 0 | ISSUED FOR NJDEP PERMIT | 7/2019 | RJP | KEK | MJD | |
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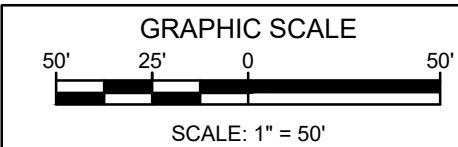
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|---------------|--------|--|--|--|--|--|
| DRAWN BY | DATE | | | | | |
| RJP | 7/2019 | | | | | |
| CHECKED BY | DATE | | | | | |
| KEK | 7/2019 | | | | | |
| ENG. APPROVAL | DATE | | | | | |
| MJD | 7/2019 | | | | | |
| P.M. APPROVAL | DATE | | | | | |
| MW | 7/2019 | | | | | |

| APPROVALS | | CLIENT APPROVAL | |
|---------------|--------|-----------------|--|
| DRAWN BY | DATE | | |
| RJP | 7/2019 | | |
| CHECKED BY | DATE | | |
| KEK | 7/2019 | | |
| ENG. APPROVAL | DATE | | |
| MJD | 7/2019 | | |
| P.M. APPROVAL | DATE | | |
| MW | 7/2019 | | |

PREPARED FOR
PennEast
PIPELINE

PREPARED BY
M M
MOTT
MACDONALD
111 WOOD AVENUE SOUTH, ISELIN, NJ 08830
CERTIFICATE NO. 24GA28016600

| PENNEAST PIPELINE PROJECT | | |
|---|--------------|----------|
| PENNEAST PIPELINE FLOOD HAZARD AREA PERMIT PLAN MP 95.4R2 - MP 95.6R2 | | |
| SCALE | DRAWING NO. | REVISION |
| 1" = 50' | PE-FHA-M-083 | 0 |




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| MJD | 7/2019 |
| P.M. APPROVAL | DATE |
| MW | 7/2019 |

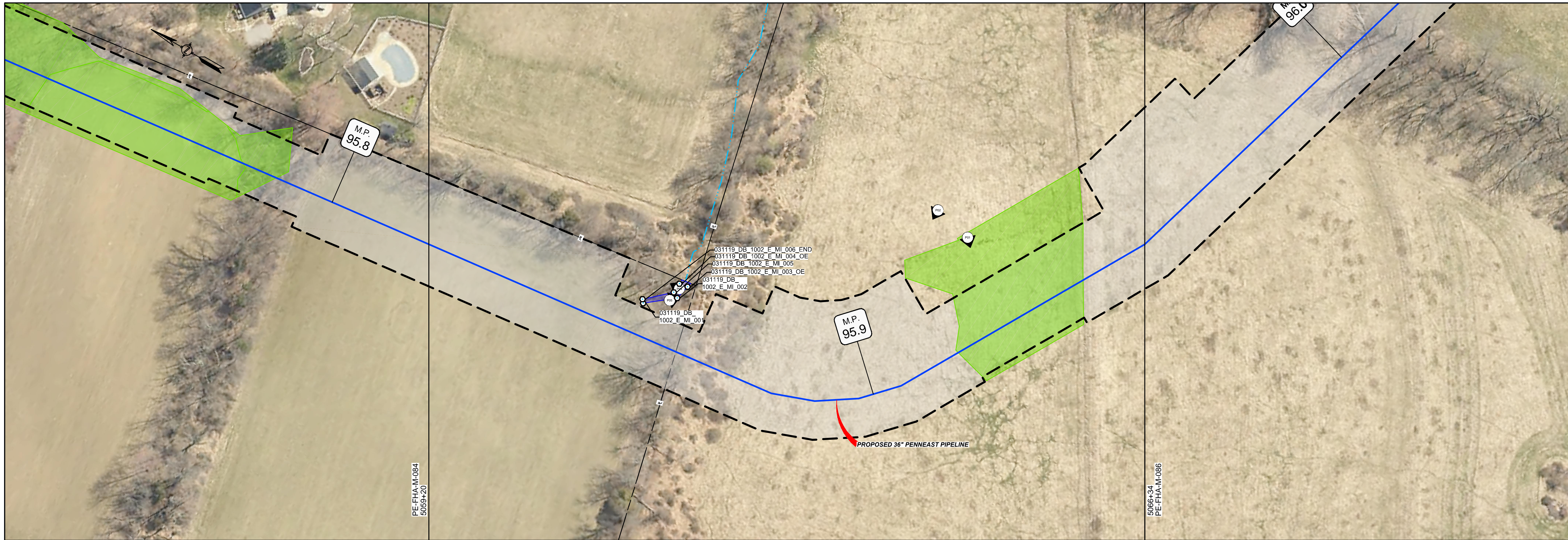
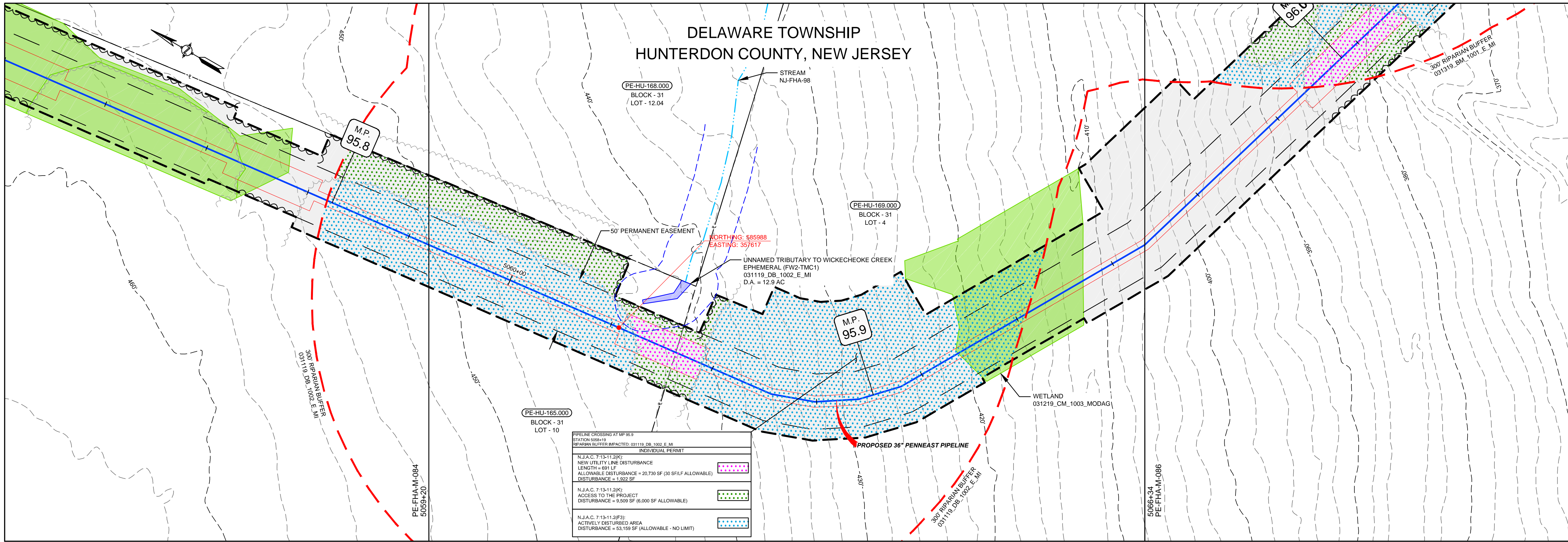
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| | CLIENT APPROVAL |
| | |
| | DATE |
| | 7/2019 |

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| PREPARED FOR |  |
| PREPARED BY | M M MOTT MACDONALD |
| 111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830 CERTIFICATE NO. 24GA28016600 | |

PENNEAST PIPELINE PROJECT

PENNEAST PIPELINE
FLOOD HAZARD AREA PERMIT PLAN
MP 95.6R2 - MP 95.8

| | | |
|----------|--------------|----------|
| SCALE | DRAWING NO. | REVISION |
| 1" = 50' | PE-FHA-M-084 | 0 |



LEGEND

PROPOSED PIPELINE
LIMITS OF DISTURBANCE
PROPOSED PERMANENT EASEMENT
OPERATIONAL CORRIDOR
PROPOSED TREE LINE
EXISTING TREE LINE
WETLAND (SURVEYED)
WETLAND (PUBLIC)
WATERBODY (SURVEYED)
WATERBODY (PUBLIC)
ACTIVELY DISTURBED AREA (RIPARIAN IMPACT)
TEMPORARY ACCESS TO PROJECT DISTURBANCE (RIPARIAN IMPACT)
NEW UTILITY LINE DISTURBANCE (RIPARIAN IMPACT)
RIPARIAN BUFFER
25' BUFFER FROM STREAM TOP OF BANK
STREAM CENTERLINE (SURVEYED)
STREAM CENTERLINE (PUBLIC)
LIMITS OF WETLAND DELINEATION
PROPERTY LINE
PARCEL ID WITH BLOCK AND LOT NUMBER
EXISTING CULVERT
CORRUGATED PLASTIC PIPE
CORRUGATED METAL PIPE
HIGH DENSITY POLYETHYLENE PIPE
POLYVINYL CHLORIDE PIPE
REINFORCED CONCRETE PIPE
UNKNOWN
EXISTING FOREIGN UTILITY EASEMENT
EXISTING MAJOR CONTOURS
EXISTING MINOR CONTOURS
EXISTING PIPELINE
EXISTING OVERHEAD LINE
EXISTING TREE
EXISTING FENCE
STATE OPEN WATER FLAG
PHOTO LOCATION (SEE REPORT)

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THOMAS D. STRONG
PROFESSIONAL LAND SURVEYOR
N.J. LIC. NO. 24GS03676100

SIGNATURE: *Thomas D. Strong* DATE: 08/01/2019

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MICHAEL J. DENICHILO
PROFESSIONAL ENGINEER
N.J. LIC. NO. 24GE05078700

SIGNATURE: *Michael J. Denichilo* DATE: 08/01/2019

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|--------------------|-------|-----|--|-------------------------|--------|-------|-----|-----------|---------------|--------|--|
| DWG. NO. | TITLE | | | REVISIONS | DATE | DRAWN | CK | APPR | DRAWN BY | DATE | |
| | | 0 | | ISSUED FOR NJDEP PERMIT | 7/2019 | RJP | KEK | MJD | RJP | 7/2019 | |
| | | | | | | | | | KEK | 7/2019 | |
| | | | | | | | | | ENG. APPROVAL | DATE | |
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| | | | | | | | | | MW | 7/2019 | |

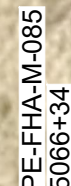
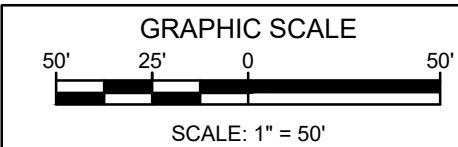
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| MJD | 7/2019 | | |
| P.M. APPROVAL | DATE | | |
| MW | 7/2019 | | |

PREPARED FOR
PennEast
PIPELINE

PREPARED BY
MOTT MACDONALD
111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830
CERTIFICATE NO. 24GA28016600

| PENNEAST PIPELINE PROJECT | | |
|---|--------------|----------|
| PENNEAST PIPELINE FLOOD HAZARD AREA PERMIT PLAN MP 95.8 - MP 96.0 | | |
| SCALE | DRAWING NO. | REVISION |
| 1" = 50' | PE-FHA-M-085 | 0 |



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[illegible]

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| |
| CLIENT APPROVAL |
| |
| DATE |
| 7/2019 |



PennEast
PIPELINE

PENNEAST PIPELINE FLOOD HAZARD AREA PERMIT PLAN

PENNEAST PIPELINE
FLOOD HAZARD AREA PERMIT PLAN
MP 96.0 - MP 96.2


| | | |
|----------|--------------|----------|
| SCALE | DRAWING NO. | REVISION |
| 1" = 50' | PE-FHA-M-086 | 0 |

LEGEND

- | | |
|--|--|
| | PROPOSED PIPELINE |
| | LIMITS OF DISTURBANCE |
| | PROPOSED PERMANENT EASEMENT |
| | OPERATIONAL CORRIDOR |
| | PROPOSED TREE LINE |
| | EXISTING TREE LINE |
| | WETLAND (SURVEYED) |
| | WETLAND (PUBLIC) |
| | WATERBODY (SURVEYED) |
| | WATERBODY (PUBLIC) |
| | ACTIVELY DISTURBED AREA (RIPARIAN IMPACT) |
| | TEMPORARY ACCESS TO PROJECT DISTURBANCE (RIPARIAN IMPACT) |
| | NEW UTILITY LINE DISTURBANCE (RIPARIAN IMPACT) |
| | RIPARIAN BUFFER |
| | 25' BUFFER FROM STREAM TOP OF BANK |
| | STREAM CENTERLINE (SURVEYED) |
| | STREAM CENTERLINE (PUBLIC) |
| | LIMITS OF WETLAND DELINEATION |
| | PROPERTY LINE |
| | PARCEL ID WITH BLOCK AND LOT NUMBER |
| | EXISTING CULVERT |
| | CORRUGATED PLASTIC PIPE |
| | CORRUGATED METAL PIPE |
| | HIGH DENSITY POLYETHYLENE PIPE |
| | POLYVINYL CHLORIDE PIPE |
| | REINFORCED CONCRETE PIPE |
| | UNKNOWN |
| | EXISTING FOREIGN UTILITY EASEMENT |
| | EXISTING MAJOR CONTOURS |
| | EXISTING MINOR CONTOURS |
| | EXISTING PIPELINE |
| | EXISTING OVERHEAD LINE |
| | EXISTING TREE |
| | EXISTING FENCE |
| | STATE OPEN WATER FLAG |
| | PHOTO LOCATION (SEE REPORT) |

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N.J. LIC. NO. 24GS03676100

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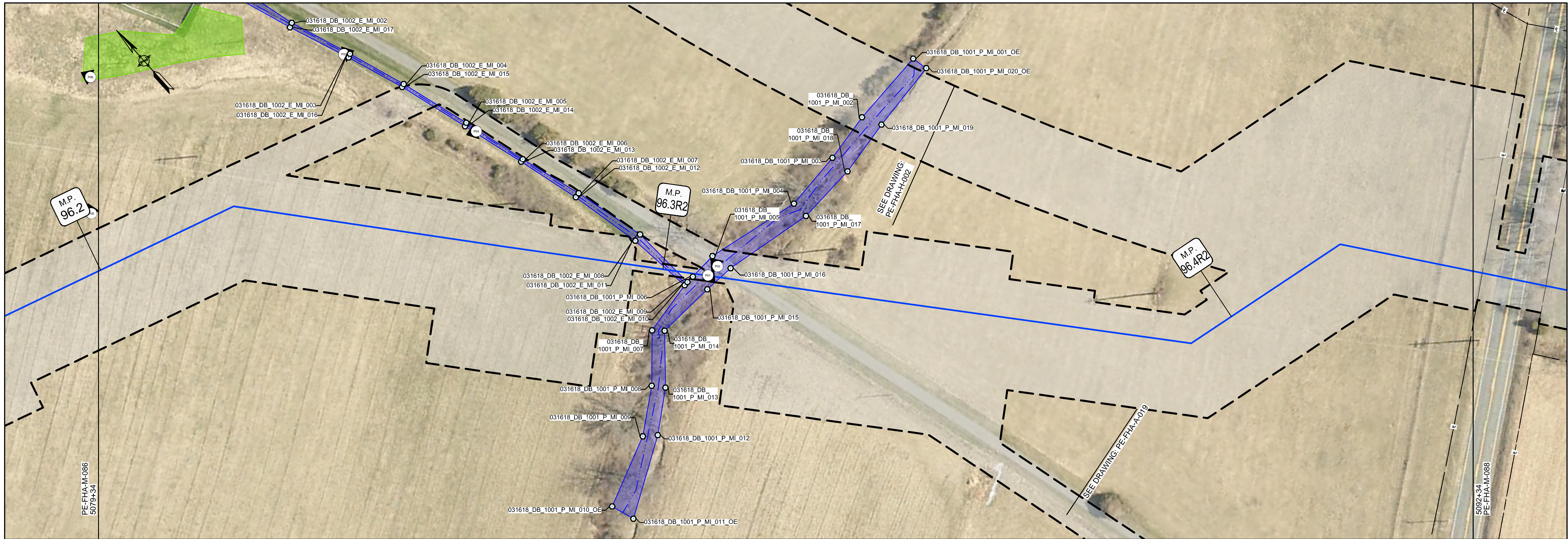
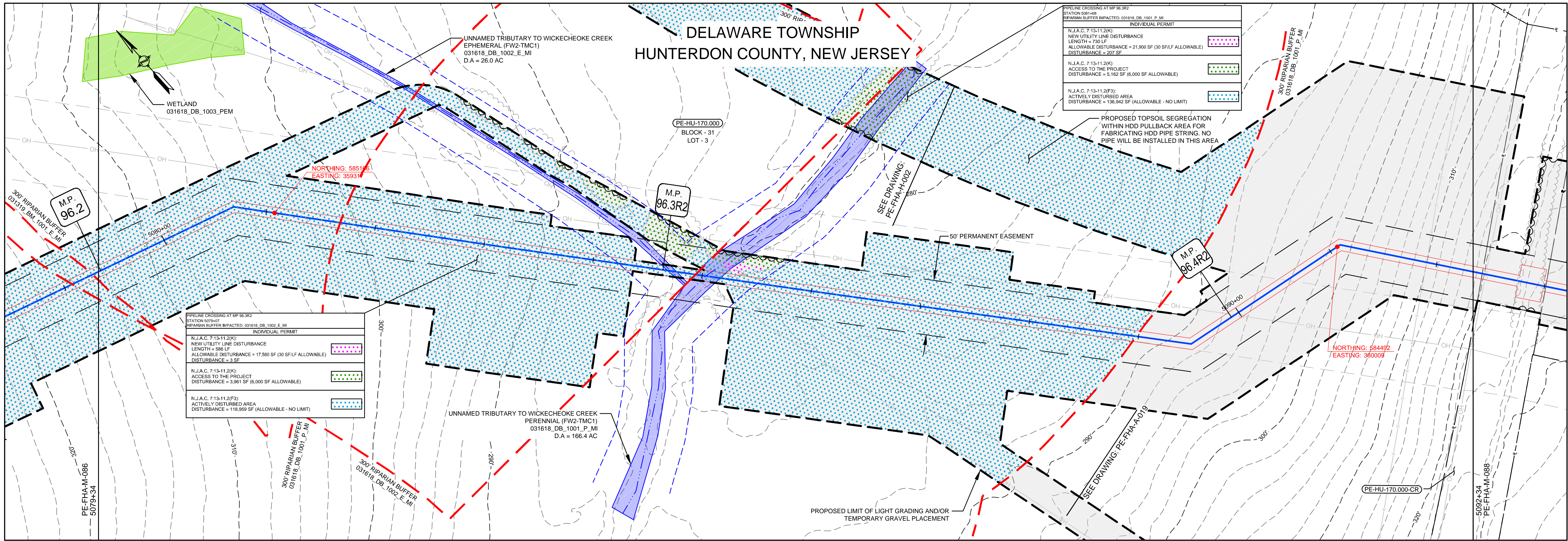
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PROFESSIONAL ENGINEER
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|--------------------|-------------------------------------|-----|--|-----------|--|------|--|-------|--|----|--|------|--|
| DWG. NO. | TITLE | | | | | | | | | | | | |
| 000-03-03-071 | * ACCESS ROAD DETAIL | | | | | | | | | | | | |
| PE-SSC-M-96.30R2 | SUPPLEMENTAL STREAM CROSSING DETAIL | | | | | | | | | | | | |
| PE-SSC-M-96.31R2 | SUPPLEMENTAL STREAM CROSSING DETAIL | | | | | | | | | | | | |
| PE-SSC-M-96.34R2 | SUPPLEMENTAL STREAM CROSSING DETAIL | | | | | | | | | | | | |

| NO. | | REVISIONS | | DATE | | DRAWN | | CK | | APPR | |
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| | |
|--|-------------------|
| PREPARED FOR | PennEast PIPELINE |
| PREPARED BY | MOTT MACDONALD |
| 111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830 | |
| CERTIFICATE NO. 24GE05078700 | |

| PENNEAST PIPELINE PROJECT | | |
|---|--------------|----------|
| PENNEAST PIPELINE FLOOD HAZARD AREA PERMIT PLAN MP 96.2 - MP 96.4R2 | | |
| SCALE | DRAWING NO. | REVISION |
| 1" = 50' | PE-FHA-M-087 | 0 |

I AM A DULY REGISTERED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF NEW JERSEY AND I HEREBY CERTIFY THAT THE EXISTING CONDITIONS SHOWN WERE FIELD LOCATED AND PREPARED UNDER MY DIRECT SUPERVISION.

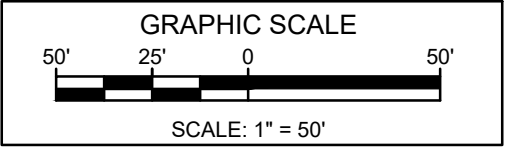
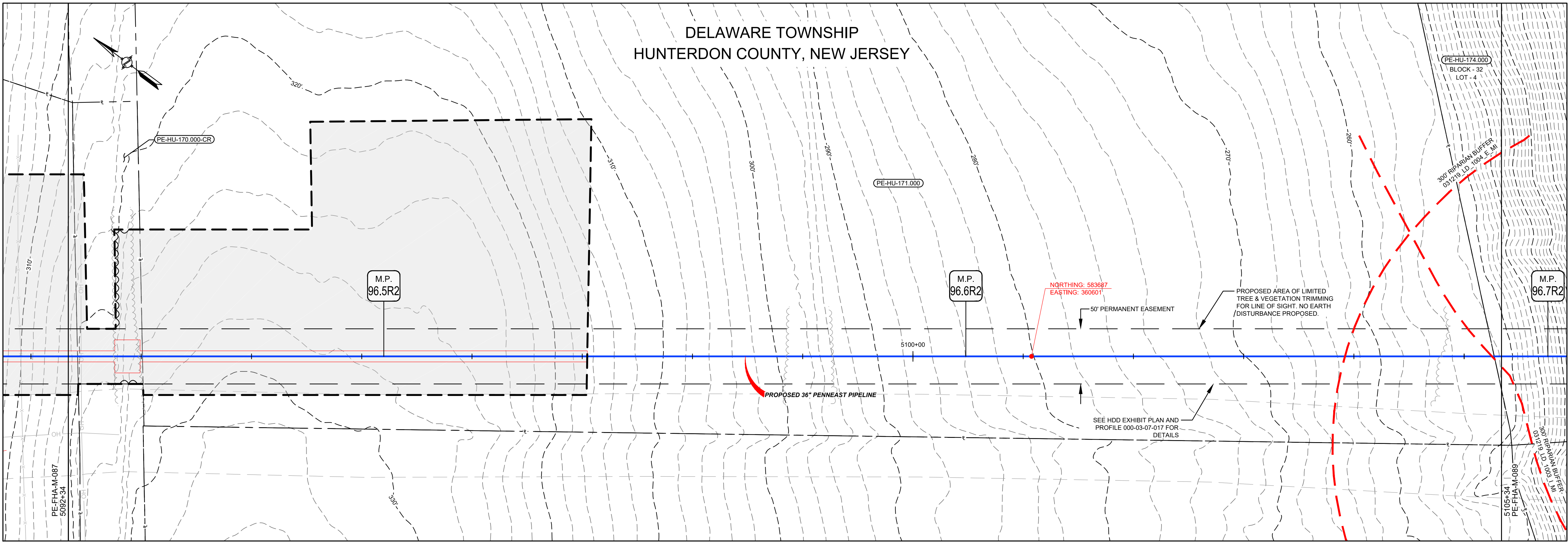
THOMAS D. STRONG
PROFESSIONAL LAND SURVEYOR
N.J. LIC. NO. 24GS03676100

Thomas D. Strong 08/01/2019
SIGNATURE DATE

I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF NEW JERSEY AND I HEREBY CERTIFY THAT THE PROPOSED ENVIRONMENTAL DISTURBANCES SHOWN ARE ACCURATE AND CORRESPOND WITH THE DETAILED ENGINEERING DRAWINGS.

MICHAEL J. DENICHILO
PROFESSIONAL ENGINEER
N.J. LIC. NO. 24GE05078700

Michael J. Denichilo 08/01/2019
SIGNATURE DATE



- LEGEND
- PROPOSED PIPELINE
 - LIMITS OF DISTURBANCE
 - PROPOSED PERMANENT EASEMENT
 - OPERATIONAL CORRIDOR
 - PROPOSED TREE LINE
 - EXISTING TREE LINE
 - WETLAND (SURVEYED)
 - WETLAND (PUBLIC)
 - WATERBODY (SURVEYED)
 - WATERBODY (PUBLIC)
 - ACTIVELY DISTURBED AREA (RIPARIAN IMPACT)
 - TEMPORARY ACCESS TO PROJECT DISTURBANCE (RIPARIAN IMPACT)
 - NEW UTILITY LINE DISTURBANCE (RIPARIAN IMPACT)
 - RIPARIAN BUFFER
 - 25' BUFFER FROM STREAM TOP OF BANK
 - STREAM CENTERLINE (SURVEYED)
 - STREAM CENTERLINE (PUBLIC)
 - LIMITS OF WETLAND DELINEATION
 - PROPERTY LINE
 - PARCEL ID WITH BLOCK AND LOT NUMBER
 - EXISTING CULVERT
 - CPP CORRUGATED PLASTIC PIPE
 - CMP CORRUGATED METAL PIPE
 - HDPE HIGH DENSITY POLYETHYLENE PIPE
 - PVC POLYVINYL CHLORIDE PIPE
 - RCP REINFORCED CONCRETE PIPE
 - UNK UNKNOWN
 - EXISTING FOREIGN UTILITY EASEMENT
 - 1260' EXISTING MAJOR CONTOURS
 - EXISTING MINOR CONTOURS
 - EXISTING PIPELINE
 - OH EXISTING OVERHEAD LINE
 - EXISTING TREE
 - EXISTING FENCE
 - SOW_FLAG_NO STATE OPEN WATER FLAG
 - PHOTO LOCATION (SEE REPORT)

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PROFESSIONAL LAND SURVEYOR
N.J. LIC. NO. 24G503676100

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SIGNATURE DATE

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PROFESSIONAL ENGINEER
N.J. LIC. NO. 24GE05078700

Michael J. Denichilo 08/01/2019
SIGNATURE DATE

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 - PHOTO LOCATIONS PROVIDED BY AMY S. GREENE ENVIRONMENTAL CONSULTANTS.
 - RIPARIAN ZONES AND WETLAND TRANSITION AREAS PROVIDED BY PAULUS, SOKOLOWSKI AND SARTOR (PS&S).
 - CIVIL SURVEY CONDUCTED AND DRAWINGS PREPARED BY MOTT MACDONALD.

| REFERENCE DRAWINGS | | REVISIONS | | | | | | |
|--------------------|--------------------------------|-----------|-------------------------|--------|-------|-----|------|--|
| DWG. NO. | TITLE | NO. | REVISIONS | DATE | DRAWN | CK | APPR | |
| 000-03-07-017 | * HDD EXHIBIT PLAN AND PROFILE | 0 | ISSUED FOR NJDEP PERMIT | 7/2019 | RJP | KEK | MJD | |
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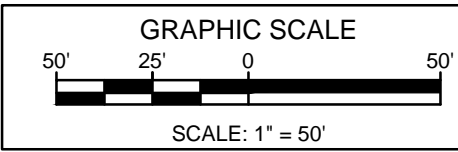
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|-----------|-------------------------|--------|-------|-----|------|--|---------------|--------|
| NO. | REVISIONS | DATE | DRAWN | CK | APPR | | DRAWN BY | DATE |
| 0 | ISSUED FOR NJDEP PERMIT | 7/2019 | RJP | KEK | MJD | | RJP | 7/2019 |
| | | | | | | | CHECKED BY | DATE |
| | | | | | | | KEK | 7/2019 |
| | | | | | | | ENG. APPROVAL | DATE |
| | | | | | | | MJD | 7/2019 |
| | | | | | | | P.M. APPROVAL | DATE |
| | | | | | | | MW | 7/2019 |

| APPROVALS | | CLIENT APPROVAL |
|---------------|--------|-----------------|
| DRAWN BY | DATE | |
| RJP | 7/2019 | |
| CHECKED BY | DATE | |
| KEK | 7/2019 | |
| ENG. APPROVAL | DATE | |
| MJD | 7/2019 | |
| P.M. APPROVAL | DATE | |
| MW | 7/2019 | |

PREPARED FOR
PennEast
PIPELINE

PREPARED BY
M M
MOTT
MACDONALD
111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830
CERTIFICATE NO. 24GA28016600

| PENNEAST PIPELINE PROJECT | | |
|---|-----------------------------|---------------|
| PENNEAST PIPELINE FLOOD HAZARD AREA PERMIT PLAN MP 96.4R2 - MP 96.7R2 | | |
| SCALE 1" = 50' | DRAWING NO. PE-FHA-M-088 | REVISION 0 |



- NOTES:
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 4. PHOTO LOCATIONS PROVIDED BY AMY S. GREENE ENVIRONMENTAL CONSULTANTS.
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 6. CIVIL SURVEY CONDUCTED AND DRAWINGS PREPARED BY MATT MC DONALD.

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| APPROVALS | |
|---------------|--------|
| DRAWN BY | DATE |
| RJP | 7/2019 |
| CHECKED BY | DATE |
| KEK | 7/2019 |
| ENG. APPROVAL | DATE |
| MJD | 7/2019 |
| P.M. APPROVAL | DATE |
| MW | 7/2019 |

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| CLIENT APPROVAL |
| |
| DATE |
| 7/2019 |

| | |
|--|--|
| | <p>PREPARED FOR</p>  |
| | <p>PREPARED BY M M MOTT MACDONALD</p> <p>111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830 CERTIFICATE NO. 24GA28016600</p> |

| | |
|---|--|
| PENNEAST PIPELINE PROJECT | |
| PENNEAST PIPELINE FLOOD HAZARD AREA PERMIT PLAN MP 96.7R2 - MP 96.9R2 | |

| | | |
|----------|--------------|----------|
| SCALE | DRAWING NO. | REVISION |
| 1" = 50' | PE-FHA-M-089 | 0 |

LEGEND


- | | |
|--|---|
| | PROPOSED PIPELINE |
| | LIMITS OF DISTURBANCE |
| | PROPOSED PERMANENT EASEMENT |
| | OPERATIONAL CORRIDOR |
| | PROPOSED TREE LINE |
| | EXISTING TREE LINE |
| | WETLAND (SURVEYED) |
| | WETLAND (PUBLIC) |
| | WATERBODY (SURVEYED) |
| | WATERBODY (PUBLIC) |
| | ACTIVELY DISTURBED AREA (RIPARIAN IMPACT) |
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| | NEW UTILITY LINE DISTURBANCE (RIPARIAN IMPACT) |
| | RIPARIAN BUFFER |
| | 25' BUFFER FROM STREAM TOP OF BANK |
| | STREAM CENTERLINE (SURVEYED) |
| | STREAM CENTERLINE (PUBLIC) |
| | LIMITS OF WETLAND DELINEATION |
| | PROPERTY LINE |
| | PARCEL ID WITH BLOCK AND LOT NUMBER |
| | EXISTING CULVERT |
| | CORRUGATED PLASTIC PIPE |
| | CORRUGATED METAL PIPE |
| | HIGH DENSITY POLYETHYLENE PIPE |
| | POLYVINYL CHLORIDE PIPE |
| | REINFORCED CONCRETE PIPE |
| | UNKNOWN |
| | EXISTING FOREIGN UTILITY EASEMENT |
| | EXISTING MAJOR CONTOURS |
| | EXISTING MINOR CONTOURS |
| | EXISTING PIPELINE |
| | EXISTING OVERHEAD LINE |
| | EXISTING TREE |
| | EXISTING FENCE |
| | STATE OPEN WATER FLAG |
| | PHOTO LOCATION (SEE REPORT) |

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THOMAS D. STRONG

PROFESSIONAL LAND SURVEYOR

N.J. LIC. NO. 24GS03676100

 08/01/2019

SIGNATURE DATE

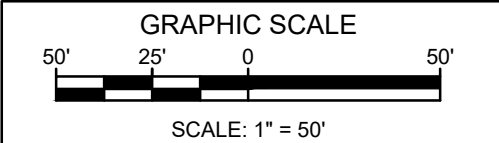
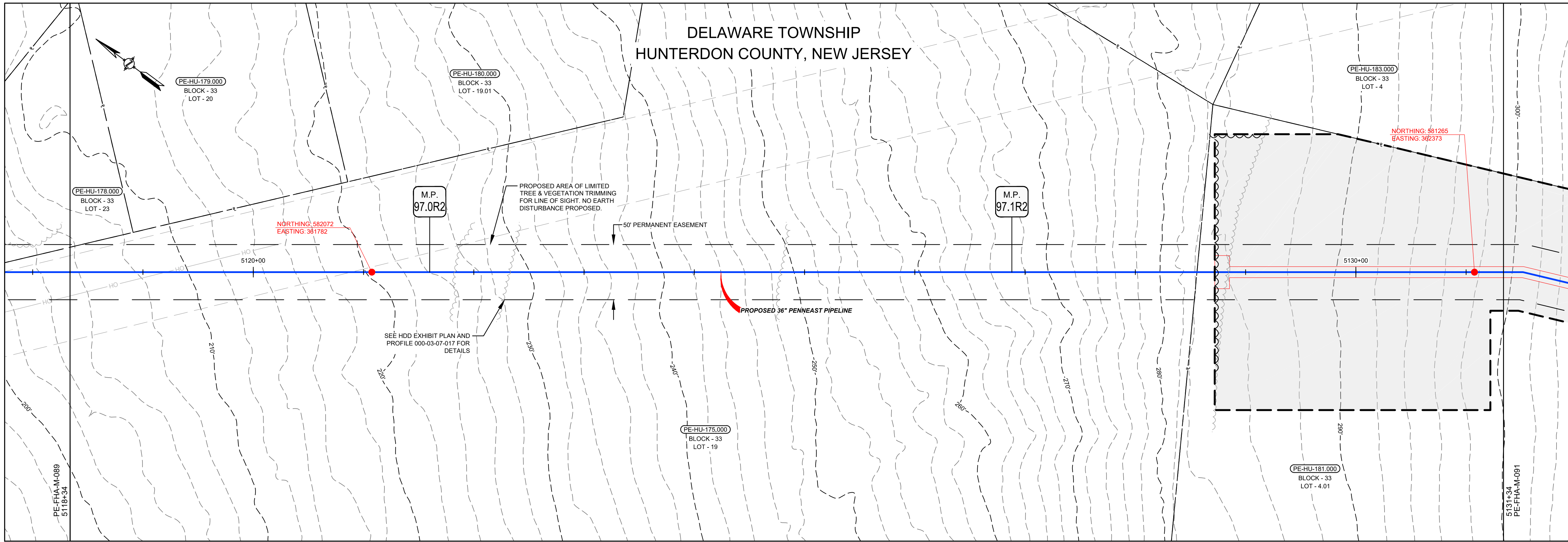
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MICHAEL J. DENICHILO
PROFESSIONAL ENGINEER

N.J. LIC. NO. 24GE05078700

 08/01/2019

SIGNATURE DATE



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- PROPOSED PIPELINE
 - LIMITS OF DISTURBANCE
 - PROPOSED PERMANENT EASEMENT
 - OPERATIONAL CORRIDOR
 - PROPOSED TREE LINE
 - EXISTING TREE LINE
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Thomas D. Strong 08/01/2019
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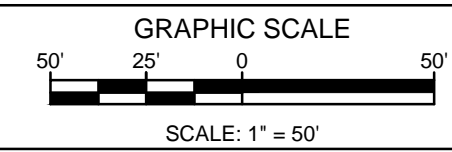
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| DWG. NO. | TITLE | NO. | REVISIONS | DATE | DRAWN |
| 000-03-07-017 | * HDD EXHIBIT PLAN AND PROFILE | 0 | ISSUED FOR NJDEP PERMIT | 7/2019 | RJP |
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| APPROVALS | | | | CLIENT APPROVAL | |
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| DRAWN BY | DATE | CHECKED BY | DATE | DATE | DATE |
| RJP | 7/2019 | | | | |
| KEK | 7/2019 | | | | |
| ENG. APPROVAL | DATE | | | | |
| MJD | 7/2019 | | | | |
| P.M. APPROVAL | DATE | | | | |
| MW | 7/2019 | | | | |

PREPARED FOR
PennEast
PIPELINE

PREPARED BY
MOTT MACDONALD
111 WOOD AVENUE SOUTH, ISELIN, NJ 08830
CERTIFICATE NO. 24GA28016600

| PENNEAST PIPELINE PROJECT | | |
|---|-----------------------------|---------------|
| PENNEAST PIPELINE FLOOD HAZARD AREA PERMIT PLAN MP 96.9R2 - MP 97.2R2 | | |
| SCALE 1" = 50' | DRAWING NO. PE-FHA-M-090 | REVISION 0 |




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| APPROVALS | |
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| DRAWN BY | DATE |
| RJP | 7/2019 |
| CHECKED BY | DATE |
| KEK | 7/2019 |
| ENG. APPROVAL | DATE |
| MJD | 7/2019 |
| P.M. APPROVAL | DATE |
| MW | 7/2019 |

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|---|--|
| PREPARED FOR | |
|  | |
| PREPARED BY | |
| M M | |
| MOTT MACDONALD | |
| 111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830 | |
| CERTIFICATE NO. 24GA28016600 | |

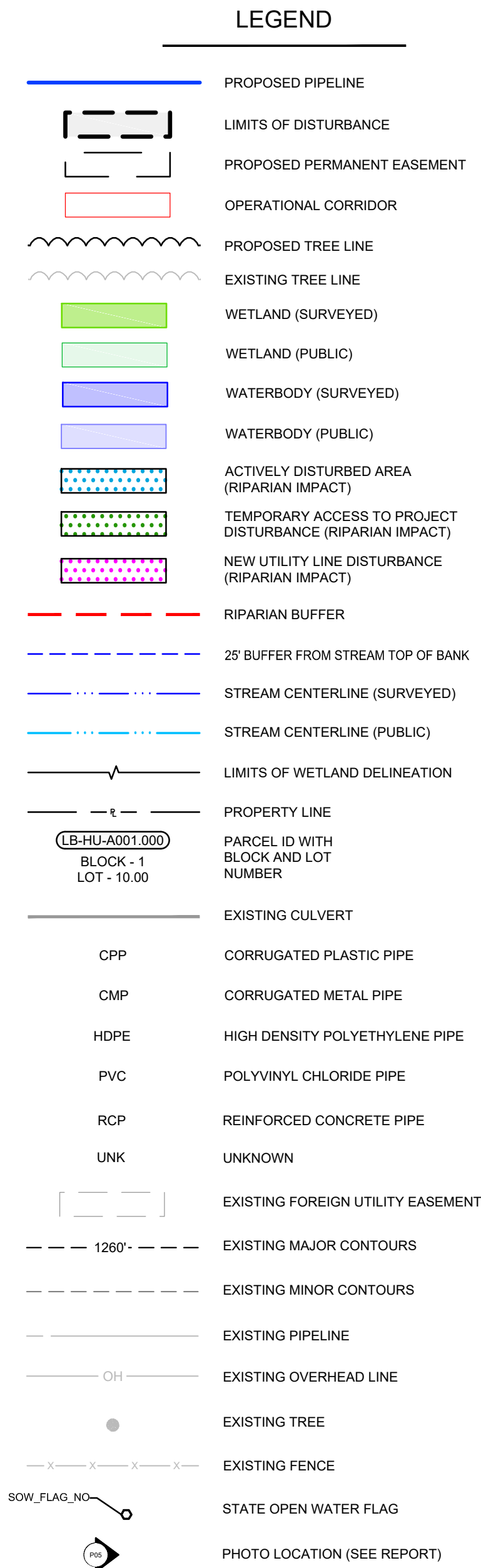
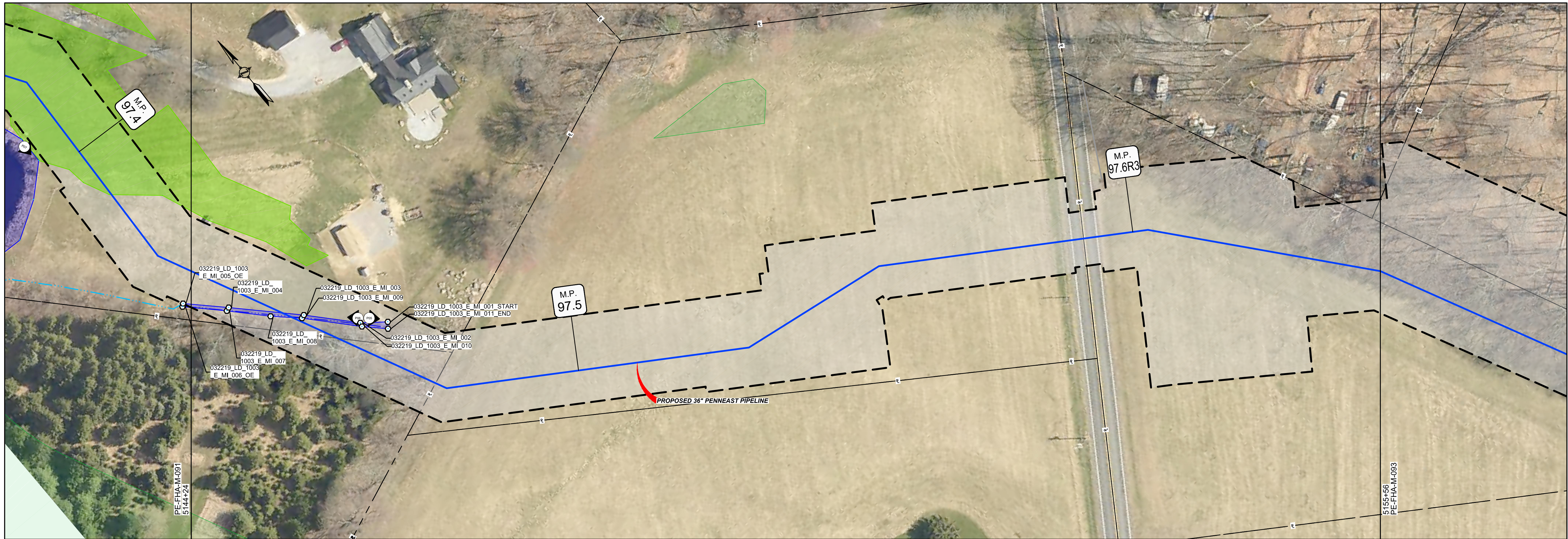
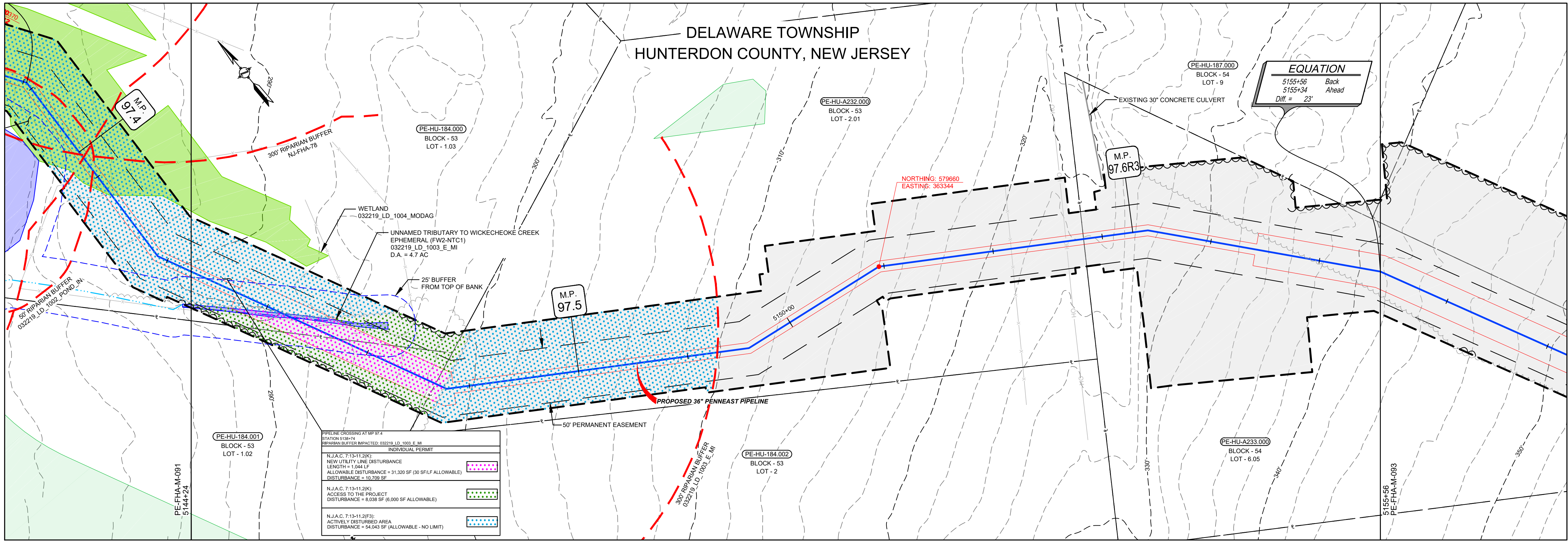
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| SCALE | DRAWING NO. | REVISION |
| 1" = 50' | PE-FHA-M-091 | 0 |

 08/01/2019

SIGNATURE DATE

 08/01/2019

SIGNATURE DATE



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N.J. LIC. NO. 24G503676100

SIGNATURE DATE

08/01/2019

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SIGNATURE DATE

08/01/2019

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| REFERENCE DRAWINGS | | REVISIONS | | | | | | |
|--------------------|-------------------------------------|-----------|-------------------------|--------|-------|-----|------|--|
| DWG. NO. | TITLE | NO. | REVISIONS | DATE | DRAWN | CK | APPR | |
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| RJP | 7/2019 | | | | | |
| CHECKED BY | DATE | | | | | |
| KEK | 7/2019 | | | | | |
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| MJD | 7/2019 | | | | | |
| P.M. APPROVAL | DATE | | | | | |
| MW | 7/2019 | | | | | |

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| MJD | 7/2019 | | |
| P.M. APPROVAL | DATE | | |
| MW | 7/2019 | | |

PREPARED FOR

PennEast
PIPELINE

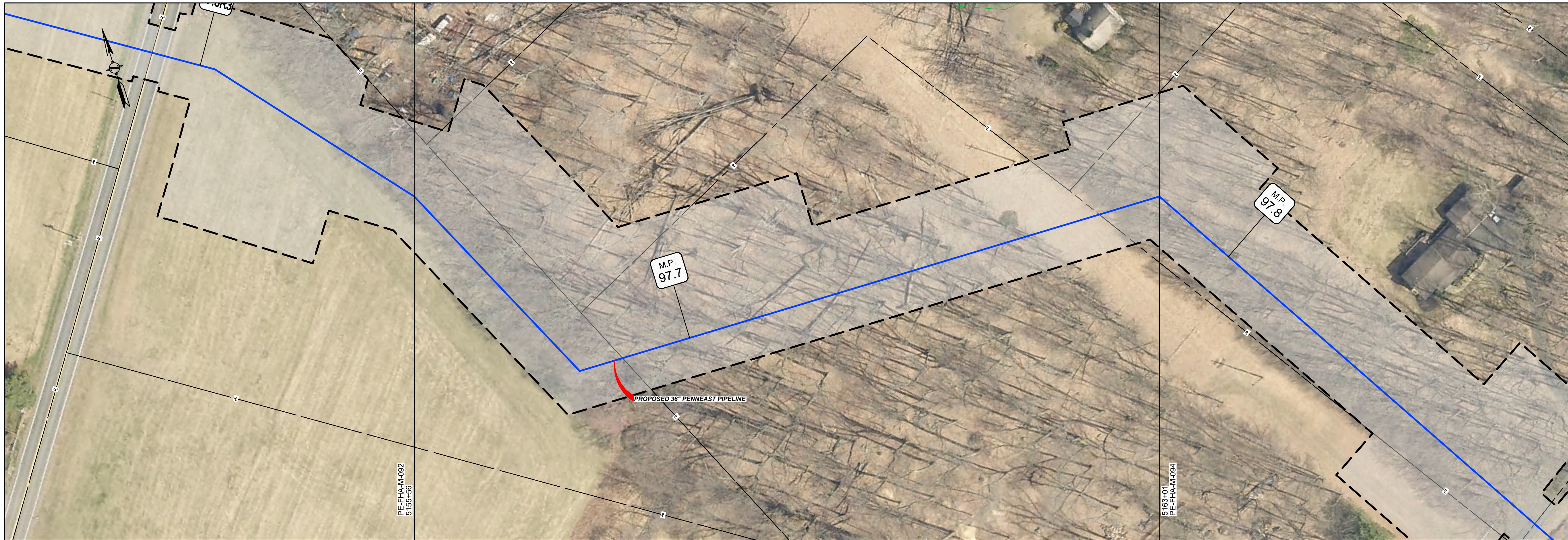
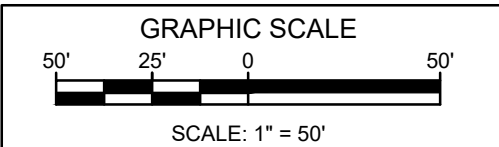
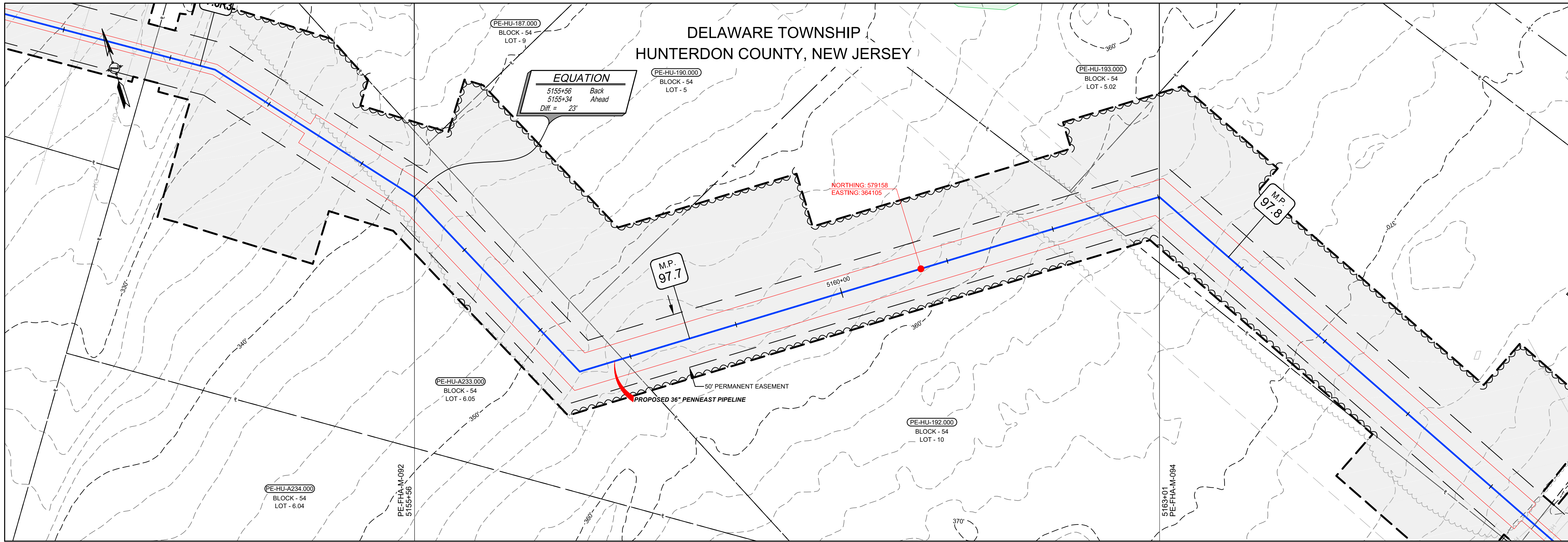
PREPARED BY

MOTT
MACDONALD
111 WOOD AVENUE SOUTH, ISELIN, NJ 08830
CERTIFICATE NO. 24GA28016600

PENNEAST PIPELINE PROJECT

PENNEAST PIPELINE
FLOOD HAZARD AREA PERMIT PLAN
MP 97.4 - MP 97.6R3

| SCALE | DRAWING NO. | REVISION |
|----------|--------------|----------|
| 1" = 50' | PE-FHA-M-092 | 0 |



- LEGEND**
- PROPOSED PIPELINE
 - LIMITS OF DISTURBANCE
 - PROPOSED PERMANENT EASEMENT
 - OPERATIONAL CORRIDOR
 - PROPOSED TREE LINE
 - EXISTING TREE LINE
 - WETLAND (SURVEYED)
 - WETLAND (PUBLIC)
 - WATERBODY (SURVEYED)
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 - ACTIVELY DISTURBED AREA (RIPARIAN IMPACT)
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 - RIPARIAN BUFFER
 - 25' BUFFER FROM STREAM TOP OF BANK
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 - STATE OPEN WATER FLAG
 - PHOTO LOCATION (SEE REPORT)

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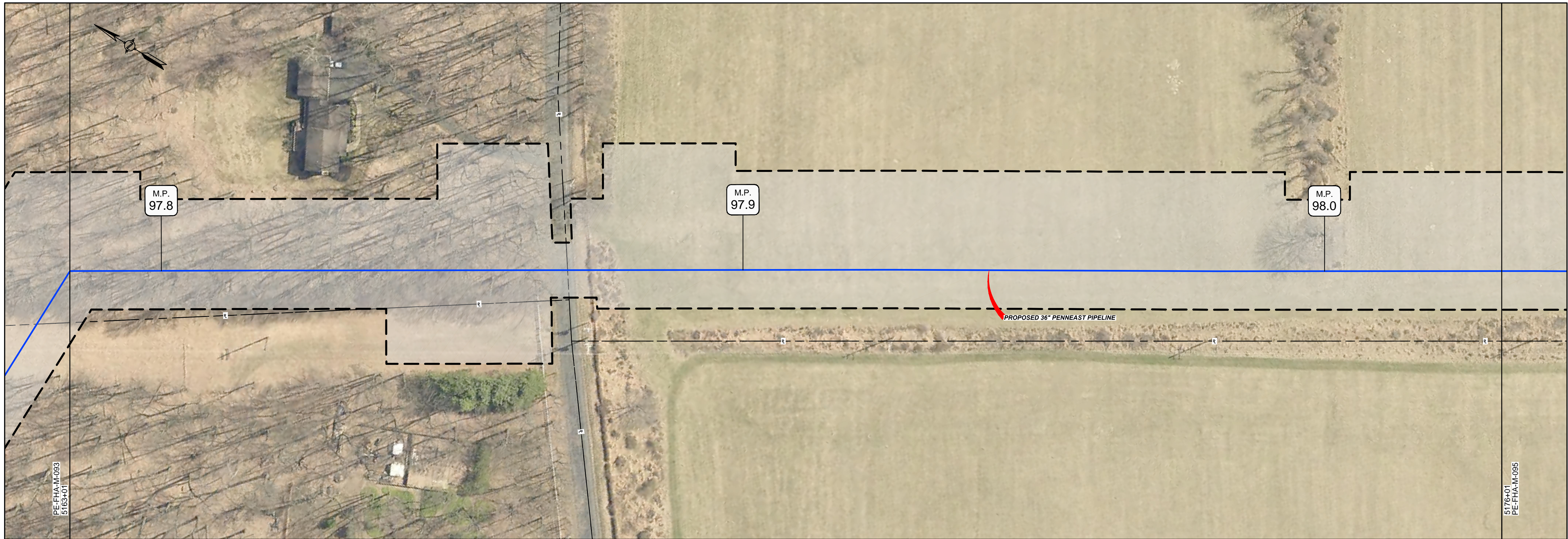
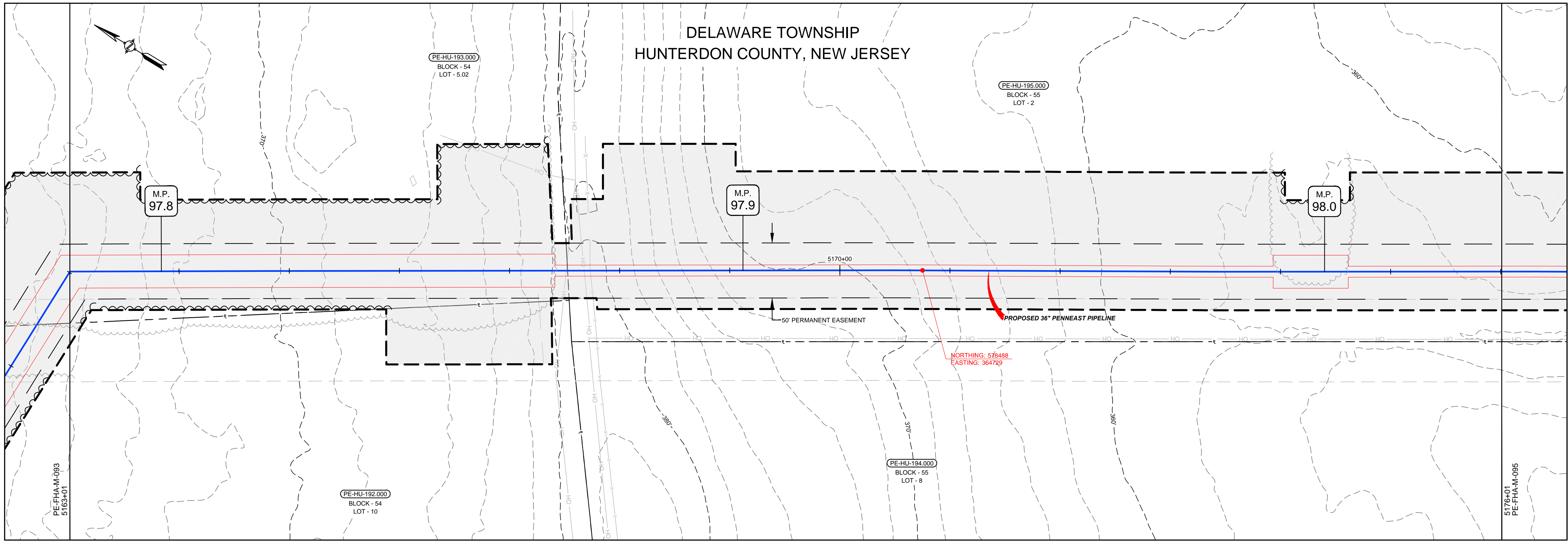
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- CIVIL SURVEY CONDUCTED AND DRAWINGS PREPARED BY MOTT MACDONALD.

| REFERENCE DRAWINGS | | REVISIONS | | | | | | |
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| DWG. NO. | TITLE | NO. | REVISIONS | DATE | DRAWN | CK | APPR | |
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| PREPARED FOR | | PREPARED BY | |
| PennEast PIPELINE | | MOTT MACDONALD | |
| | | 111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830 | |
| | | CERTIFICATE NO. 24GA28016600 | |

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|---|--------------|----------|
| PENNEAST PIPELINE PROJECT | | |
| PENNEAST PIPELINE FLOOD HAZARD AREA PERMIT PLAN MP 97.6R3 - MP 97.8 | | |
| SCALE | DRAWING NO. | REVISION |
| 1" = 50' | PE-FHA-M-093 | 0 |



- LEGEND**
- PROPOSED PIPELINE
 - LIMITS OF DISTURBANCE
 - PROPOSED PERMANENT EASEMENT
 - OPERATIONAL CORRIDOR
 - PROPOSED TREE LINE
 - EXISTING TREE LINE
 - WETLAND (SURVEYED)
 - WETLAND (PUBLIC)
 - WATERBODY (SURVEYED)
 - WATERBODY (PUBLIC)
 - ACTIVELY DISTURBED AREA (RIPARIAN IMPACT)
 - TEMPORARY ACCESS TO PROJECT DISTURBANCE (RIPARIAN IMPACT)
 - NEW UTILITY LINE DISTURBANCE (RIPARIAN IMPACT)
 - RIPARIAN BUFFER
 - 25' BUFFER FROM STREAM TOP OF BANK
 - STREAM CENTERLINE (SURVEYED)
 - STREAM CENTERLINE (PUBLIC)
 - LIMITS OF WETLAND DELINEATION
 - PROPERTY LINE
 - PARCEL ID WITH BLOCK AND LOT NUMBER
(LB-HU-A001.000
BLOCK - 1
LOT - 10.00)
 - EXISTING CULVERT
 - CPP CORRUGATED PLASTIC PIPE
 - CMP CORRUGATED METAL PIPE
 - HDPE HIGH DENSITY POLYETHYLENE PIPE
 - PVC POLYVINYL CHLORIDE PIPE
 - RCP REINFORCED CONCRETE PIPE
 - UNK UNKNOWN
 - EXISTING FOREIGN UTILITY EASEMENT
 - 1260' - - - - - EXISTING MAJOR CONTOURS
 - - - - - EXISTING MINOR CONTOURS
 - - - - - EXISTING PIPELINE
 - OH EXISTING OVERHEAD LINE
 - EXISTING TREE
 - - - - - EXISTING FENCE
 - SOW_FLAG_NO STATE OPEN WATER FLAG
 - PHOTO LOCATION (SEE REPORT)

I AM A DULY REGISTERED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF NEW JERSEY AND I HEREBY CERTIFY THAT EXISTING CONDITIONS SHOWN WERE FIELD LOCATED AND PREPARED UNDER MY DIRECT SUPERVISION.

THOMAS D. STRONG
PROFESSIONAL LAND SURVEYOR
N.J. LIC. NO. 24GS03676100

Thomas D. Strong 08/01/2019
SIGNATURE DATE

I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF NEW JERSEY AND I HEREBY CERTIFY THAT THE PROPOSED ENVIRONMENTAL DISTURBANCES SHOWN ARE ACCURATE AND CORRESPOND WITH THE DETAILED ENGINEERING DRAWINGS.

MICHAEL J. DENICHILO
PROFESSIONAL ENGINEER
N.J. LIC. NO. 24GE05078700

Michael J. Denichilo 08/01/2019
SIGNATURE DATE

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| REFERENCE DRAWINGS | | REVISIONS | | | | | | |
|--------------------|-------|-----------|-------------------------|--------|-------|-----|------|--|
| DWG. NO. | TITLE | NO. | REVISIONS | DATE | DRAWN | CK | APPR | |
| | | 0 | ISSUED FOR NJDEP PERMIT | 7/2019 | RJP | KEK | MJD | |
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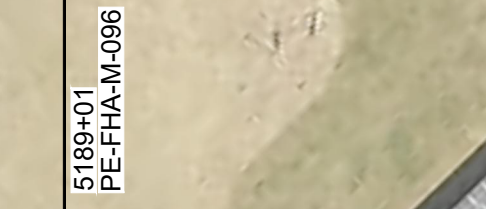
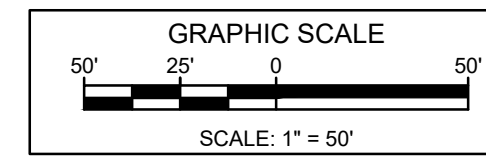
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| DRAWN BY | DATE | | | | | |
| RJP | 7/2019 | | | | | |
| CHECKED BY | DATE | | | | | |
| KEK | 7/2019 | | | | | |
| ENG. APPROVAL | DATE | | | | | |
| MJD | 7/2019 | | | | | |
| P.M. APPROVAL | DATE | | | | | |
| MW | 7/2019 | | | | | |

| APPROVALS | | | |
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| DRAWN BY | DATE | | |
| RJP | 7/2019 | | |
| CHECKED BY | DATE | | |
| KEK | 7/2019 | | |
| ENG. APPROVAL | DATE | | |
| MJD | 7/2019 | | |
| P.M. APPROVAL | DATE | | |
| MW | 7/2019 | | |

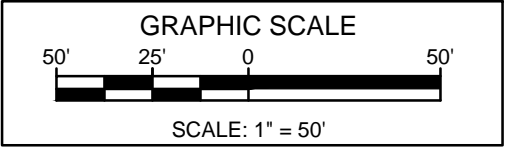
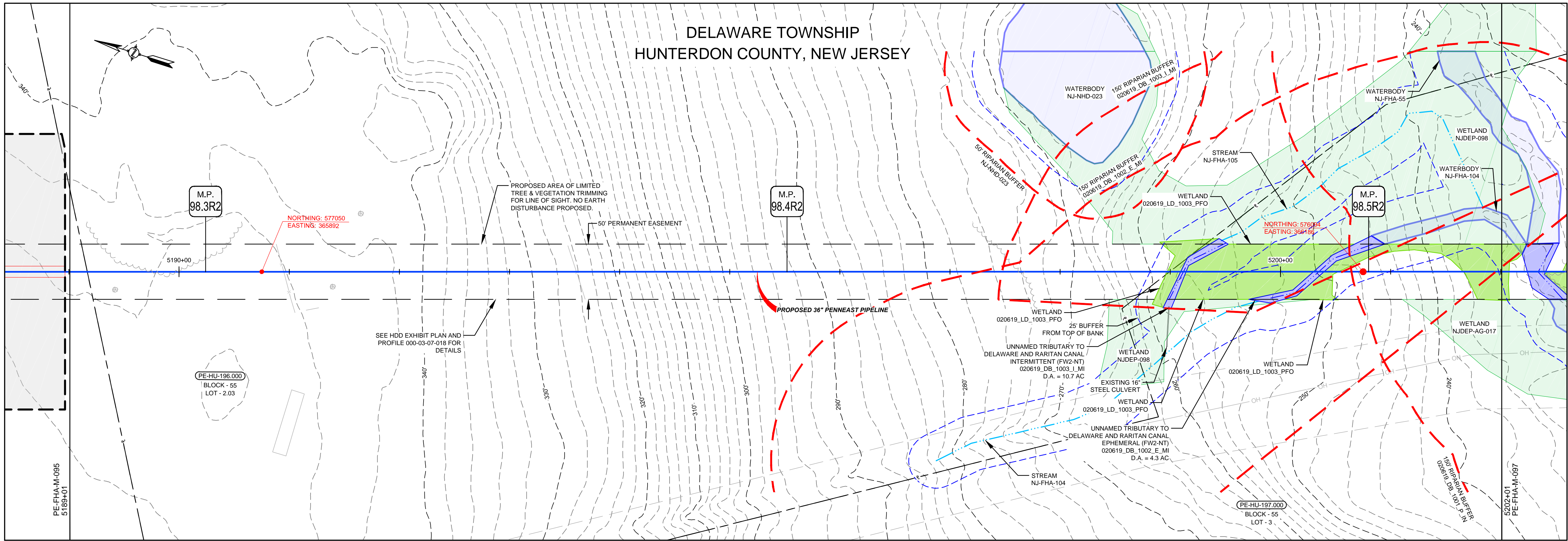
PREPARED FOR
PennEast
PIPELINE

PREPARED BY
M M
MOTT
MACDONALD
111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830
CERTIFICATE NO. 24GA28016600

| PENNEAST PIPELINE PROJECT | | |
|---|--------------|----------|
| PENNEAST PIPELINE FLOOD HAZARD AREA PERMIT PLAN MP 97.8 - MP 98.0 | | |
| SCALE | DRAWING NO. | REVISION |
| 1" = 50' | PE-FHA-M-094 | 0 |



| | | |
|---|---------------|----------|
| PENNEAST PIPELINE PROJECT | | |
| PENNEAST PIPELINE FLOOD HAZARD AREA PERMIT PLAN MP 98.0 - MP 98.3R2 | | |
| SCALE | DRAWING NO. | REVISION |
| 1" = 50' | PE-EHA-MM-095 | 0 |



| LEGEND | |
|--------|---|
| | PROPOSED PIPELINE |
| | LIMITS OF DISTURBANCE |
| | PROPOSED PERMANENT EASEMENT |
| | OPERATIONAL CORRIDOR |
| | PROPOSED TREE LINE |
| | EXISTING TREE LINE |
| | WETLAND (SURVEYED) |
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| | WATERBODY (SURVEYED) |
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| | ACTIVELY DISTURBED AREA (RIPARIAN IMPACT) |
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| | PROPERTY LINE |
| | PARCEL ID WITH BLOCK AND LOT NUMBER |
| | EXISTING CULVERT |
| | CORRUGATED PLASTIC PIPE |
| | CORRUGATED METAL PIPE |
| | HIGH DENSITY POLYETHYLENE PIPE |
| | POLYVINYL CHLORIDE PIPE |
| | REINFORCED CONCRETE PIPE |
| | UNKNOWN |
| | EXISTING FOREIGN UTILITY EASEMENT |
| | EXISTING MAJOR CONTOURS |
| | EXISTING MINOR CONTOURS |
| | EXISTING PIPELINE |
| | EXISTING OVERHEAD LINE |
| | EXISTING TREE |
| | EXISTING FENCE |
| | STATE OPEN WATER FLAG |
| | PHOTO LOCATION (SEE REPORT) |

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THOMAS D. STRONG
PROFESSIONAL LAND SURVEYOR
N.J. LIC. NO. 24GS03676100

08/01/2019
SIGNATURE DATE

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PROFESSIONAL ENGINEER
N.J. LIC. NO. 24GE05078700

08/01/2019
SIGNATURE DATE

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| REFERENCE DRAWINGS | |
|--------------------|------------------------------|
| DWG. NO. | TITLE |
| 000-03-07-018 | HDD EXHIBIT PLAN AND PROFILE |

| REVISIONS | | | | | | |
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| NO. | REVISIONS | DATE | DRAWN | CK | APPR | |
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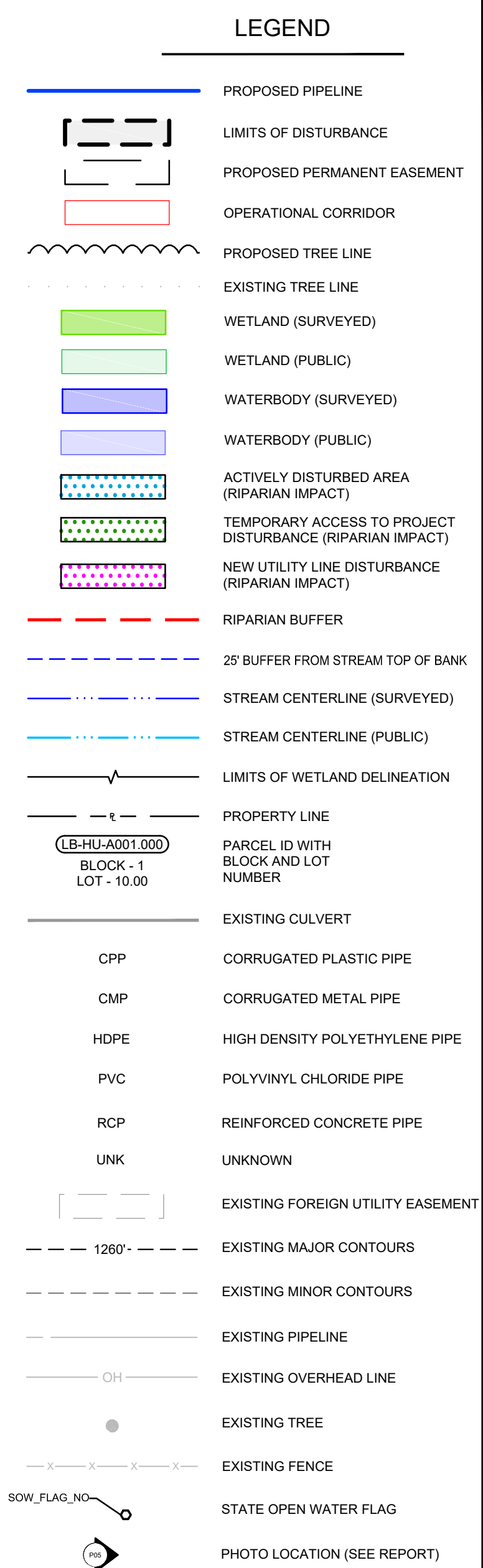
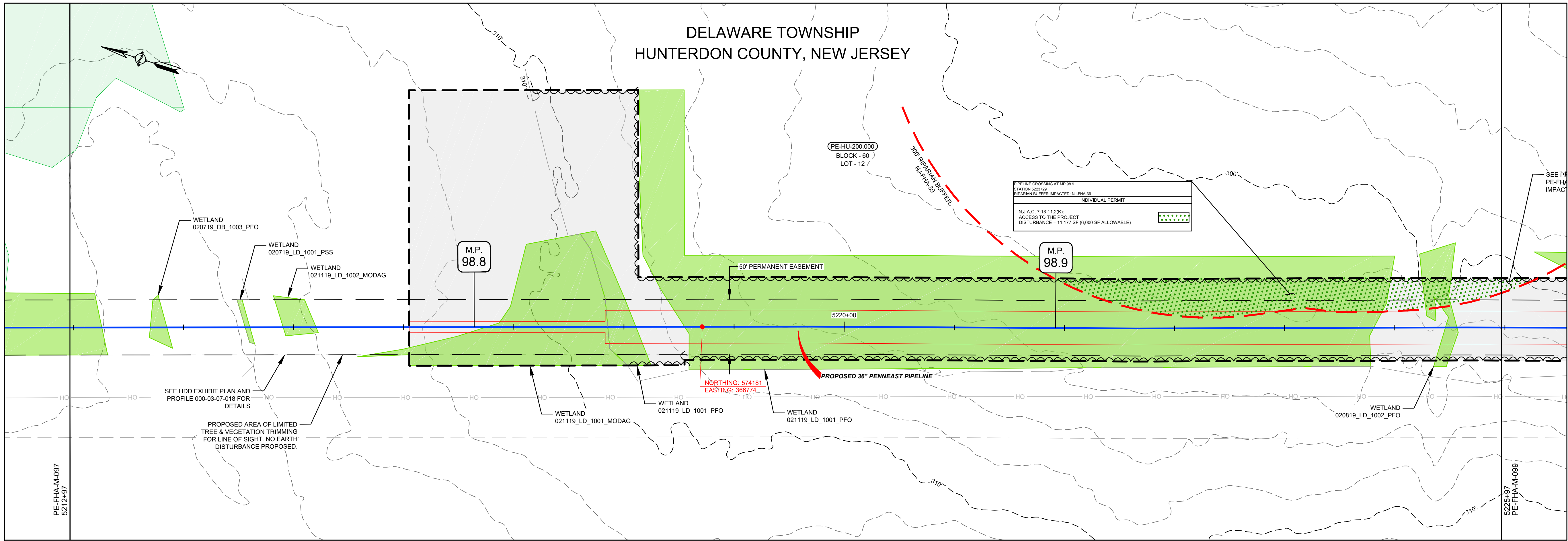
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| RJP | 7/2019 |
| CHECKED BY | DATE |
| KEK | 7/2019 |
| ENG. APPROVAL | DATE |
| MJD | 7/2019 |
| P.M. APPROVAL | DATE |
| MW | 7/2019 |

| CLIENT APPROVAL | |
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| DATE | |
| 7/2019 | |

PREPARED FOR

PREPARED BY
M M
MOTT MACDONALD
111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830
CERTIFICATE NO. 24GA28016600

| PENNEAST PIPELINE PROJECT | | |
|---|--------------|----------|
| PENNEAST PIPELINE FLOOD HAZARD AREA PERMIT PLAN MP 98.3R2 - MP 98.5R2 | | |
| SCALE | DRAWING NO. | REVISION |
| 1" = 50' | PE-FHA-M-096 | 0 |



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Michael J. Denichilo 08/01/2019
SIGNATURE DATE



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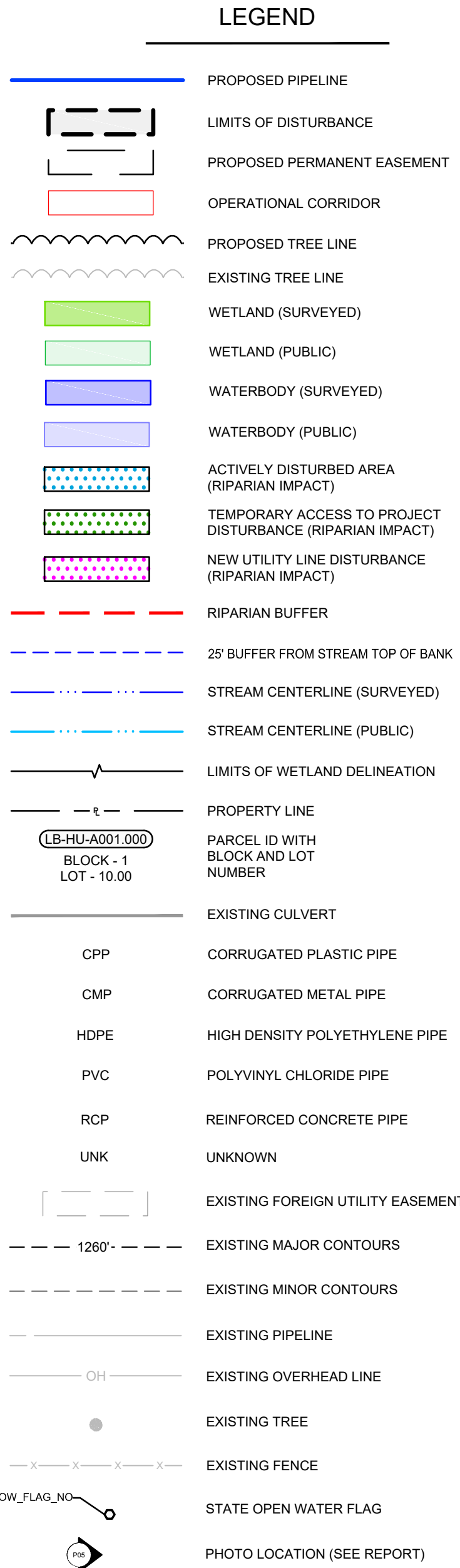
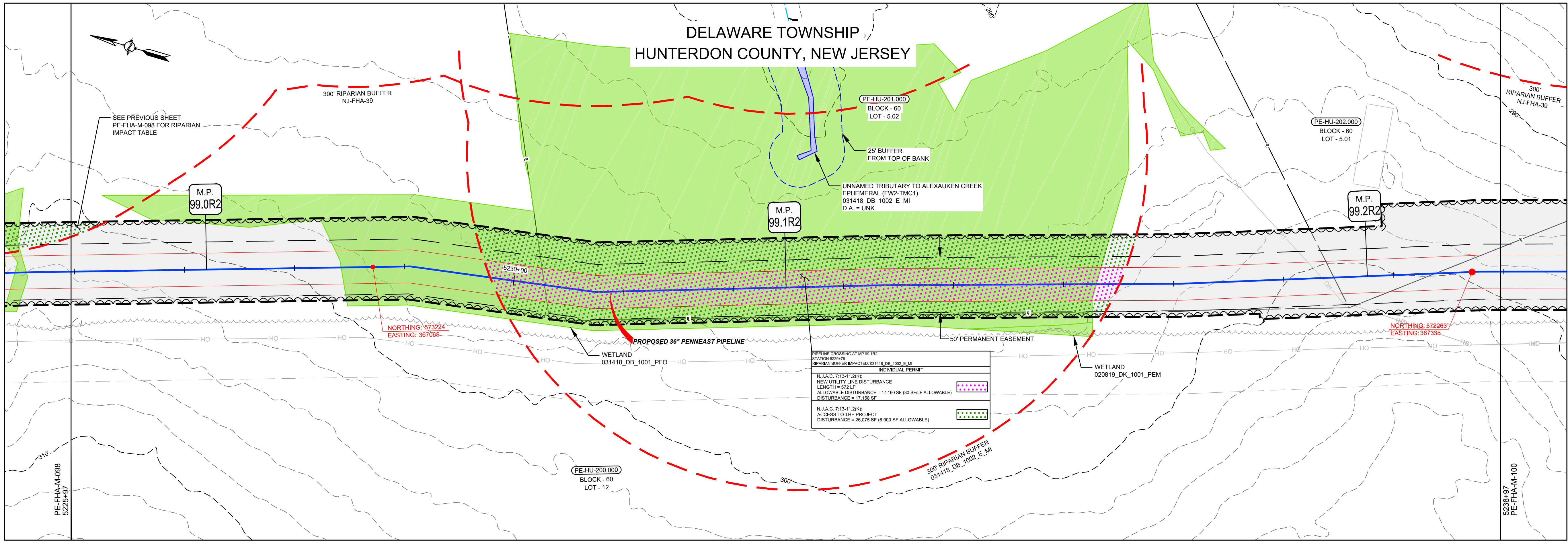
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| PREPARED FOR | | PREPARED BY | |
| PennEast PIPELINE | | MOTT MACDONALD | |
| | | 111 WOOD AVENUE SOUTH, ISELIN, NJ 08830 | |
| | | CERTIFICATE NO. 24GA28016600 | |

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|---|--------------|----------|
| PENNEAST PIPELINE PROJECT | | |
| PENNEAST PIPELINE FLOOD HAZARD AREA PERMIT PLAN MP 98.7 - MP 99.0R2 | | |
| SCALE | DRAWING NO. | REVISION |
| 1" = 50' | PE-FHA-M-098 | 0 |



I AM A DULY REGISTERED PROFESSIONAL LAND SURVEYOR
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SIGNATURE DATE

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| | | 0 | ISSUED FOR NJDEP PERMIT | 7/2019 | RJP |
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| APPROVALS | | | | CLIENT APPROVAL | |
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| DRAWN BY | DATE | CHECKED BY | DATE | DATE | DATE |
| RJP | 7/2019 | | | | |
| KEK | 7/2019 | | | | |
| ENG. APPROVAL | DATE | | | | |
| MJD | 7/2019 | | | | |
| P.M. APPROVAL | DATE | | | | |
| MW | 7/2019 | | | | |

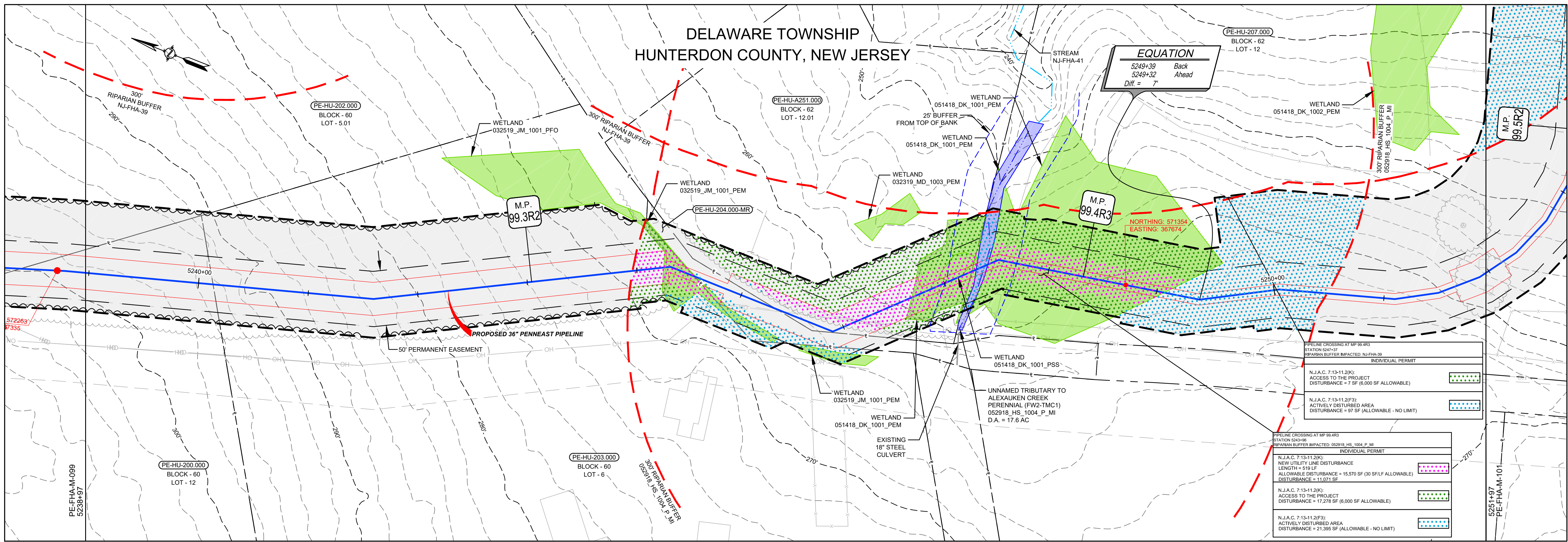
PREPARED FOR
PennEast
PIPELINE

PREPARED BY
M M
MOTT
MACDONALD
111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830
CERTIFICATE NO. 24GA28016600

PENNEAST PIPELINE PROJECT

**PENNEAST PIPELINE
FLOOD HAZARD AREA PERMIT PLAN
MP 99.0R2 - MP 99.2R2**

| SCALE | DRAWING NO. | REVISION |
|----------|--------------|----------|
| 1" = 50' | PE-FHA-M-099 | 0 |



- LEGEND**
- PROPOSED PIPELINE
 - LIMITS OF DISTURBANCE
 - PROPOSED PERMANENT EASEMENT
 - OPERATIONAL CORRIDOR
 - PROPOSED TREE LINE
 - EXISTING TREE LINE
 - WETLAND (SURVEYED)
 - WETLAND (PUBLIC)
 - WATERBODY (SURVEYED)
 - WATERBODY (PUBLIC)
 - ACTIVELY DISTURBED AREA (RIPARIAN IMPACT)
 - TEMPORARY ACCESS TO PROJECT DISTURBANCE (RIPARIAN IMPACT)
 - NEW UTILITY LINE DISTURBANCE (RIPARIAN IMPACT)
 - RIPARIAN BUFFER
 - 25' BUFFER FROM STREAM TOP OF BANK
 - STREAM CENTERLINE (SURVEYED)
 - STREAM CENTERLINE (PUBLIC)
 - LIMITS OF WETLAND DELINEATION
 - PROPERTY LINE
 - PARCEL ID WITH BLOCK AND LOT NUMBER
 - EXISTING CULVERT
 - CPP CORROGATED PLASTIC PIPE
 - CMP CORROGATED METAL PIPE
 - HDPE HIGH DENSITY POLYETHYLENE PIPE
 - PVC POLYVINYL CHLORIDE PIPE
 - RCP REINFORCED CONCRETE PIPE
 - UNK UNKNOWN
 - EXISTING FOREIGN UTILITY EASEMENT
 - 1260' EXISTING MAJOR CONTOURS
 - EXISTING MINOR CONTOURS
 - EXISTING PIPELINE
 - OH EXISTING OVERHEAD LINE
 - EXISTING TREE
 - EXISTING FENCE
 - STATE OPEN WATER FLAG
 - PHOTO LOCATION (SEE REPORT)

I AM A DULY REGISTERED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF NEW JERSEY AND I HEREBY CERTIFY THAT THE PROPOSED ENVIRONMENTAL DISTURBANCES SHOWN ARE ACCURATE AND CORRESPOND WITH THE DETAILED ENGINEERING DRAWINGS.

THOMAS D. STRONG
PROFESSIONAL LAND SURVEYOR
N.J. LIC. NO. 24GS03676100

Thomas D. Strong 08/01/2019
SIGNATURE DATE

I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF NEW JERSEY AND I HEREBY CERTIFY THAT THE PROPOSED ENVIRONMENTAL DISTURBANCES SHOWN ARE ACCURATE AND CORRESPOND WITH THE DETAILED ENGINEERING DRAWINGS.

MICHAEL J. DENICHILO
PROFESSIONAL ENGINEER
N.J. LIC. NO. 24GE05078700

Michael J. Denichilo 08/01/2019
SIGNATURE DATE

- NOTES:
- UNLESS THESE DRAWINGS ARE SPECIFICALLY DESIGNATED AS "CONSTRUCTION ISSUE", THESE DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION OR IMPROVEMENTS DEPICTED HEREIN. CONTRACTORS SHALL NOTIFY THE DESIGN ENGINEER TO OBTAIN CONSTRUCTION DOCUMENTS.
 - THESE PLANS ARE FOR PERMITTING PURPOSES ONLY. THESE PLANS SHALL NOT BE USED FOR CONSTRUCTION.
 - WETLAND AND WATERBODY DELINEATION SURVEYS COMPLETED BY AMY S. GREENE ENVIRONMENTAL CONSULTANTS.
 - PHOTO LOCATIONS PROVIDED BY AMY S. GREENE ENVIRONMENTAL CONSULTANTS.
 - RIPARIAN ZONES AND WETLAND TRANSITION AREAS PROVIDED BY PAULUS, SOKOLOWSKI AND SARTOR (PS&S).
 - CIVIL SURVEY CONDUCTED AND DRAWINGS PREPARED BY MOTT MACDONALD.

| REFERENCE DRAWINGS | | REVISIONS | | | | | | |
|--------------------|-------------------------------------|-----------|-------------------------|--------|-------|-----|------|--|
| DWG. NO. | TITLE | NO. | REVISIONS | DATE | DRAWN | CK | APPR | |
| PE-SSC-M-99.3R2 | SUPPLEMENTAL STREAM CROSSING DETAIL | 0 | ISSUED FOR NJDEP PERMIT | 7/2019 | RJP | KEK | MJD | |
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| APPROVALS | | | | | | |
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| DRAWN BY | DATE | | | | | |
| RJP | 7/2019 | | | | | |
| CHECKED BY | DATE | | | | | |
| KEK | 7/2019 | | | | | |
| ENG. APPROVAL | DATE | | | | | |
| MJD | 7/2019 | | | | | |
| P.M. APPROVAL | DATE | | | | | |
| MW | 7/2019 | | | | | |

| APPROVALS | | CLIENT APPROVAL | |
|---------------|--------|-----------------|--|
| DRAWN BY | DATE | | |
| RJP | 7/2019 | | |
| CHECKED BY | DATE | | |
| KEK | 7/2019 | | |
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| PENNEAST PIPELINE FLOOD HAZARD AREA PERMIT PLAN MP 99.2R2 - MP 99.5R2 | | |
| SCALE | DRAWING NO. | REVISION |
| 1" = 50' | PE-FHA-M-100 | 0 |